

## BIOLOGY OF SIGNALING IN THE CARDIOVASCULAR SYSTEM MEETING PROGRAM

### THURSDAY, SEPTEMBER 11, 2008

#### *Signaling in Development*

7:00 PM -9:10PM — JFK Ballroom

Chair: *Michael Simons*, Yale University School of Medicine

7:00 Welcome

Tim Hla, *University of Connecticut Health Center*

Michael Simons, *Yale University School of Medicine*

7:10 Growth factor signaling pathways that regulate myocardial development and coronary vasculogenesis: From developmental biology to therapeutic implications  
David Ornitz, *Washington University*

7:40 Notch and VEGF pathways interact to regulate angiogenesis  
Jan K. Kitajewski, *Columbia University*

8:10 Neural guidance receptors in vascular patterning  
Anne Eichmann, *Collège de France INSERM U833*

8:40 Novel functions for PDGF receptor signaling in blood vessel development  
Michelle D. Tallquist, *University of Texas Southwestern Medical Center*

9:10 *Welcome Reception*

Location to be determined - will conclude at 10:30 PM

### FRIDAY, SEPTEMBER 12, 2008

#### *Breakfast*

7:00 AM – 8:00 AM — Emerald Room, Lower Level

#### *Vascular Cell Surface-I*

8:00 AM – 11:00 AM — JFK Ballroom

Chair: *Helmut Augustin*, University of Heidelberg - German Cancer Research Center

8:00 Location, location, location in VEGF signaling  
Luisa Iruela-Arispe, *University of California, Los Angeles*

8:30 Feedback inhibition of receptor tyrosine kinase signaling in the endothelial cell  
Robert Friesel, *Maine Medical Center Research Institute*

9:00 Role of Raf in vascular development and angiogenesis  
David Cheresh, *University of California, San Diego*

9:30 *Coffee Break*

10:00 Ang-2 and Tie1 as dynamic regulators of constitutive Ang-1/Tie2 signaling in the vascular system  
Helmut Augustin, *University of Heidelberg - German Cancer Research Center*

10:30 Abstract presentation: Neuropilin-1 Endocytosis is essential for its signaling and depends on its ligand  
Arie Horowitz, *Dartmouth Medical School*

10:45 *Abstract presentation: Nogo-B is essential for macrophage dependent inflammatory arteriogenesis and angiogenesis*  
Jun Yu, *Yale University School of Medicine*

### **Visit the Exhibits and Posters**

11:00 AM – 12:00 PM — Crystal Room, Lower Level

12:00 *Lunch*  
Emerald Room, Lower Level

### **Vascular Cell Surface-II**

1:00 PM – 4:00 PM — JFK Ballroom

Chair: **Tatiana Byzova**, Lerner Research Institute, Cleveland Clinic Foundation

1:00 A G-Protein-coupled receptor and VE-cadherin cross-talk: A role in vascular permeability and tumor induced-angiogenesis?  
J. Silvio Gutkind, *National Institute of Dental and Craniofacial Research*

1:30 *Abstract presentation: Wnt/beta-Catenin signaling controls development and maintenance of the blood-brain barrier*  
Stefan Liebner, *University of Frankfurt*

1:45 *Abstract presentation: Norrin/ $\beta$ -Catenin signaling in retinal vascular development*  
Harald Junge, *Genentech, Inc.*

2:00 Integrin and growth factor alliance in angiogenesis  
Tatiana Byzova, *Lerner Research Institute, Cleveland Clinic Foundation*

2:30 *Coffee Break*

3:00 Understanding neuropilin function in vascular development  
Christiana Ruhrberg, *University College London*

3:30 *Abstract presentation: Heart of glass receptor and cerebral cavernous malformation proteins regulate the formation and integrity of the cardiovascular system*  
Benjamin Kleaveland, *University of Pennsylvania*

3:45 *Abstract presentation: VE-cadherin mediated cell-cell interaction suppresses sprouting via signaling to MLC2 phosphorylation*  
Georgia Mavria, *Institute of Cancer Research, London*

### **POSTER SESSIONS**

4:00 PM - 6:00 PM

#### ***Signaling in Development***

#### ***Vascular Cell Surface***

#### ***Intracellular Transducers and Nodes***

Crystal Room, Lower Level

Presenters will alternate times as follows: Presenters at odd numbered boards will man their posters from 4:00 to 5:00 pm; even numbered boards will be manned from 5:00 to 6:00 pm.

6:00 *Dinner*  
On your own - enjoy Hyannis

***Intracellular Transducers and Nodes***

8:00 PM – 10:00PM — JFK Ballroom

- Chair: **William C. Sessa**, Yale University School of Medicine
- 8:00 Protein S-nitrosylation in the cardiovascular system  
Jonathan Stamler, *Duke University Medical Center*
- 8:30 NO-based signal transduction  
William C. Sessa, *Yale University School of Medicine*
- 9:00 eNOS/caveolin-1 interactions  
Asrar Malik, *University of Illinois at Chicago*
- 9:30 The molecular architecture of cAMP microdomains  
Kimberly Dodge-Kafka, *University of Connecticut Health Center*

**SATURDAY, SEPTEMBER 13, 2008*****Breakfast***

7:00 AM – 8:00 AM — Emerald Room, Lower Level

***Extracellular Stimuli***

8:00 AM – 11:00 AM — JFK Ballroom

- Chair: **Mark H. Ginsberg**, University of California, San Diego
- 8:00 Shear stress: Atheroprotection vs. atherogenesis  
Elena Tzima, *University of North Carolina, Chapel Hill*
- 8:30 *Abstract presentation:* CD13/Aminopeptidase N is a novel mediator of monocyte/endothelial cell adhesion  
Fiona H. Fenteany, *University of Connecticut Health Center*
- 8:45 *Abstract presentation:* The Pix and integrin story: A link between focal adhesions and vascular stability?  
Jing Liu, *University of Calgary*
- 9:00 Regulation of vascular integrins  
Mark H. Ginsberg, *University of California, San Diego*
- 9:30 *Coffee Break*
- 10:00 Regulation of angiogenesis and arteriogenesis by hypoxia-inducible factor 1  
Gregg L. Semenza, *Johns Hopkins University*
- 10:30 *Abstract presentation:* PHD2 deficiency protects retinal vessels from oxygen-induced damage  
Guo-Hua Fong, *University of Connecticut Health Center*
- 10:45 *Abstract presentation:*  $\beta$ 1 integrins function as mechanotransduction elements at the luminal surface of endothelial cells in association with caveolae to activate eNOS  
Victor Rizzo, *Temple University School of Medicine*

***Visit the Exhibits and Posters***

11:00 AM – 12:00 PM — Crystal Room, Lower Level

- 12:00 *Lunch*  
Emerald Room, Lower Level

**Phosphorylation Cascades**

1:00 PM – 4:00 PM — JFK Ballroom

Chair: **Kenneth Walsh**, Boston University1:00 *mTORC1 signaling*John Blenis, *Harvard Medical School*1:30 *Abstract presentation: Syndecan-4 regulates subcellular localization of mTOR complex2 and Akt activation in a PKCalpha-dependent manner*  
Chohreh Partovian, *Dartmouth Medical School*1:45 *Abstract presentation: Cooperative protein kinase signaling cascades downstream of Cdc42 activation control EC lumenogenesis in 3D collagen matrices*  
George E. Davis, *University of Missouri School of Medicine*2:00 VEGF regulation of angiogenesis: The Delta Paradox  
George Yancopoulos, *Regeneron Pharmaceuticals*2:30 *Coffee Break*3:00 Akt, mTOR and organ growth  
Kenneth Walsh, *Boston University*3:30 *Abstract presentation: Matrix-specific PKA and PAK signaling regulates oxidant-dependent NF-kappaB activation by flow*  
Anthony W. Orr, *Louisiana State University*3:45 *Abstract presentation: LIM Kinase 1 regulates endothelial barrier function by coordination of microtubule stability and actin polymerization*  
Tatyana A. Voyno-Yasenetskaya, *University of Illinois at Chicago***POSTER SESSIONS**

4:00 PM - 6:00 PM

**Extracellular Stimuli****Phosphorylation Cascades and Downstream Signaling****Post-Translational Signals****System Integration and Quantitative Approaches**

Crystal Room, Lower Level

Presenters will alternate times as follows: Presenters at odd numbered boards will man their posters from 4:00 to 5:00 pm; even numbered boards will be manned from 5:00 to 6:00 pm.

6:00 *Dinner*  
On your own - enjoy Hyannis**Post-Translational Signals**

8:00 PM – 10:00 PM — JFK Ballroom

Chair: **Joe G.N. Garcia**, University of Chicago8:00 Receptor signaling to the endothelial cytoskeleton  
Joe G.N. Garcia, *University of Chicago*8:30 Integrins, ECM and atherosclerosis  
Martin A. Schwartz, *University of Virginia*

- 9:00 G-protein mediated signaling in vascular physiology and pathophysiology  
Stefan Offermanns, *University of Heidelberg*
- 9:30 Regulation of immune and inflammatory responses by NF- $\kappa$ B  
Sankar Ghosh, *Yale University School of Medicine*

## **SUNDAY, SEPTEMBER 14, 2008**

### ***Breakfast***

7:00 AM – 8:00 AM — Emerald Room, Lower Level

### ***Signaling and Vascular Disease***

8:00 AM – 9:00 AM — JFK Ballroom

Chair: **Tim Hla**, University of Connecticut Health Center

- 8:00 PECAM-1 as a facilitator of endothelial cell motility  
Horace M. Delisser, *University of Pennsylvania*
- 8:30 *Abstract presentation:* Semaphorin and neuropilin mechanisms and regulation  
Akio Shimizu, *Harvard Medical School*
- 8:45 *Abstract presentation:* Sphingosine 1-phosphate receptor 2 promotes atherosclerosis through Caspase-11 regulation  
Athanasia Skoura, *University of Connecticut Health Center*

### ***System Integration and Quantitative Approaches***

9:00 AM – 11:00 AM — JFK Ballroom

Chair: **Jan E. Schnitzer**, Sidney Kimmel Cancer Center

- 9:00 Modeling cell signaling with virtual cell  
Leslie M. Loew, *University of Connecticut Health Center*
- 9:30 Quantitative proteomic and systems analysis of endothelial cell surfaces *in vivo*:  
Integrating signaling and trafficking via caveolae  
Jan E. Schnitzer, *Sidney Kimmel Cancer Center*
- 10:00 *Coffee Break*
- 10:30 *Abstract presentation:* FGF-mediated cell transformation induced by  
Notch signaling inhibition  
Igor Prudovsky, *Maine Medical Center Research Institute*
- 10:45 *Abstract presentation:* Functional analysis of mitochondrial thioredoxin  
in vascular system  
Wang Min, *Yale University School of Medicine*
- 11:00 Lipid mediator lipidomics-informatics and inflammatory pathophysiology  
Charles N. Serhan, *Brigham & Women's Hospital, Harvard Medical School*
- 11:30 Hormonal regulation uterine vascular permeability and angiogenesis  
during pregnancy  
Sudhansu K. Dey, *Cincinnati Children's Hospital Medical Center*
- 12:00 ***Program concludes***